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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/593,978	09/22/2006	Hayato Yoshino	1018773-000046	3260

21839 7590 10/16/2009

BUCHANAN, INGERSOLL & ROONEY PC
POST OFFICE BOX 1404
ALEXANDRIA, VA 22313-1404

EXAMINER	
DESAI, NAISHADH N	

ART UNIT	PAPER NUMBER
2834	

NOTIFICATION DATE	DELIVERY MODE
10/16/2009	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

ADIPFDD@bipc.com

Office Action Summary	Application No.	Applicant(s)	
	10/593,978	YOSHINO ET AL.	
	Examiner	Art Unit	
	NAISHADH N. DESAI	2834	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *08/12/2009*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1 and 3-11* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1,3-11* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 08/12/2009 has been entered.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

The factual inquiries set forth in *Graham* **v.** *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

Claims 1,3-7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Landgraf (US 4322665) in view of Hoffmeyer (US 3942055).

1. Regarding claim 1, Landgraf teaches:

A single-phase motor comprising (abstract, line 1):

a stator including a stator iron core formed by laminating a plurality of electromagnetic steel sheets (Col 3 ll 46-50) and provided with a slot and single-phase two-pole distributed windings composed of a main winding and an auxiliary winding contained in the slot (abstract and Col 3 ll 57-65);

a rotor placed through a gap on an inner circumference of the stator (Col 3 ll 46-57),

Landgraf does not explicitly appear to teach:

said stator iron core consisting of six notches, each notch formed by a single uninterrupted roughly straight line on an outer circumference edge of the stator iron core, so that a square or rectangle is formed by straight lines including four notches out of the six notches.

Hoffmeyer teaches a motor having a stator core (Fig 2) consisting of six notches (Fig 2, arrows below), each notch formed by a single uninterrupted roughly straight line on an outer circumference edge of the stator iron core (Fig 2, arrows below show at least six roughly straight notches), so that a rectangle or square is formed by straight lines including four notches out of the six notches (Fig 2, dotted lines form a square).

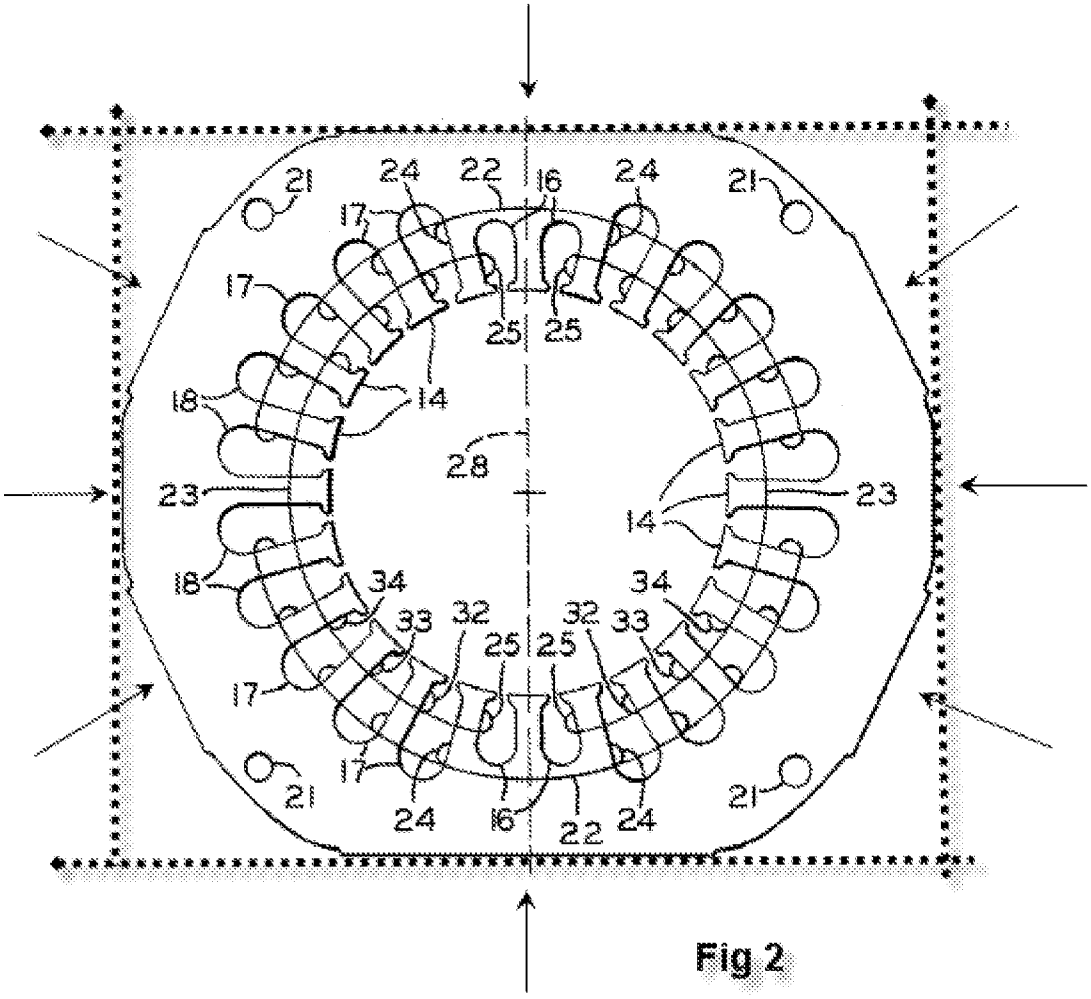


Fig 2

It would have been obvious to a person having ordinary skills in the art at the time the invention was made to modify the device of Landgraf with the teachings of Hoffmeyer to make a stator core having six notches wherein each notch is formed by a single uninterrupted roughly straight line on an outer circumference edge of the stator iron core such that a square can be formed by straight lines including four notches out of the six notches. The motivation to do so would be that it would allow one to minimize the amount of core material used to manufacture the motor (Col 2 ll 19-20 of Hoffmeyer).

Landgraf and Hoffmeyer discloses the claimed invention except for literally mentioning that the notches can form the shape of a square or rectangle. It would have been an obvious matter of design choice to change the shape of the protrusions to match the end plates since such a modification would have involved a mere change in the shape of a component. A change in shape if generally recognized as being within the level of ordinary skill in the art. *In re Dailey*, 357 F.2d 669, 149 USPQ 47 (CCPA 1966). The motivation to do so would be that it would allow one to minimize the amount of core material used to manufacture the motor (Col 2 ll 19-20 of Hoffmeyer).

2. Regarding claim 3, Hoffmeyer teaches that the stator iron core is provided with a plurality of slots (Fig 2,16-18), among a plurality of slots, at an outer circumferential side of which a notch is not placed, at least one slot is made to have a deeper depth in a radial direction (Fig 2,17) than a slot at an outer circumferential side of which a notch is placed (Fig 2,16), so that a large slot and a small slot are formed (Fig 2,16,17).

3. Regarding claim 4 Hoffmeyer (Figs 2 and 3) teaches that a winding to be contained in the large slot has a higher cross section ratio for a slot area than a winding to be contained in the small slot.

4. Regarding claim 5, Landgraf (Fig 3) and Hoffmeyer (abstract) teaches that an outer winding of a concentric main winding is inserted in the large slot.

5. Regarding claim 6 in case of inserting windings, the main winding is inserted after the auxiliary winding is inserted to the slot.

In regards to claim 6, the method of making limitations are not germane to the patentability of the apparatus and have not been given patentable weight. The patentability of the product does not depend on its method of production. If the product in the product by process claim is the same or obvious from a product of the prior art, the claim is unpatentable even though the prior product was made by a different process". In re Thorpe, 777 F.2d 695, 698, 227 USPQ 964, 966(Fed. Cir. 1985). In this instance the case it is obvious to change the sequence of how the windings are inserted into the slots to ease manufacturing of the device.

6. Regarding claim 7, Landgraf (Col 5 line 20 and Col 6 ll 42-45) teaches a hermetic compressor comprising the single-phase motor of claim 1.

Claims 8-11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Landgraf (US 4322665) in view of Takeda et al (US 5796190).

7. Regarding claim 8,Landgraf teaches:

A single-phase motor comprising (abstract):

a stator including a stator iron core formed by laminating a plurality of electromagnetic steel sheets and provided with a slot between each of a plurality of stator teeth (Col 3 ll 46-50 and Fig 2), and

single-phase two-pole distributed windings composed of a main winding and an auxiliary winding contained in the slot (abstract and Col 3 ll 57-65);

a rotor placed through a gap on an inner circumference of the stator (Col 3 ll 46-57), and

a plurality of evenly spaced semicircular notches having an approximately same width as the stator teeth and each provided at an outer side of each of the plurality of stator teeth on an outer circumference of the stator iron core (re-illustration below of Fig 2,5, dotted lines appears to teach a plurality of semicircular notches, however perhaps not inherently uniformly distributed or evenly spaced).

Landgraf does not literally teach that that there are “a plurality of evenly spaced semicircular notches having an approximately same width as the stator teeth and each provided at an outer side of each of the plurality of stator teeth on an outer circumference of the stator iron core wherein the number of semicircular notches corresponds to the number of stator teeth”.

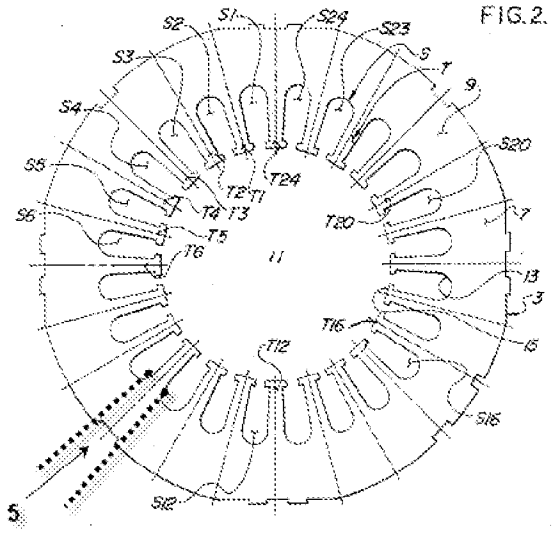
Takeda et al clearly teaches the use of “a plurality of evenly spaced semicircular notches (Fig 3a,111c,111d,111e) having an approximately same width as the stator teeth (re-illustration of Fig 3a, labels A and B below) and each provided at an outer side of each of the plurality of stator teeth on an outer circumference of the stator iron core (Fig 3a)”.

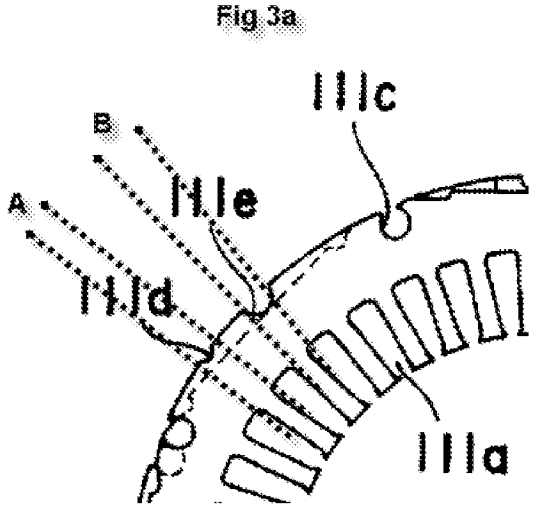
Takeda et al do not literally teach that “the number of semicircular notches corresponds to the number of stator teeth”.

However, Takeda et al do teach (Col 6 ll 31-43) the use of different notches and that there may be several of them.

It would have been obvious to a person having ordinary skills in the art at the time the invention was made to modify the device of Landgraf with the teachings of Takeda et al to "wherein the number of semicircular notches corresponds to the number of stator teeth". The motivation to do so would be that it would allow easier assembly and accurate mounting of the device (Col 3 ll 9-12 of Takeda et al).

8. Regarding claim 8, Takeda e al discloses the claimed invention except for literally mentioning that "the number of semicircular notches corresponds to the number of stator teeth". Takeda et al do however teach the use of numerous and different notches (Col 6 ll 31-43). It would have been obvious to one having ordinary skills in the art at the time the invention was made to make "the number of semicircular notches correspond to the number of stator teeth", since it has been held that discovering an optimum value of a result effective variable involves only routine skill in the art. In re Boesch, 617 F.2d 272, 205 USPQ 215 (CCPA 1980). The motivation to do so would be that it would allow easier assembly and accurate mounting of the device (Col 3 ll 9-12 of Takeda et al).





9. Regarding claim 9, Landgraf (Col 5 line 20 and Col 6 ll 42-45) teaches a hermetic compressor comprising the single-phase motor of claim 8.

10. Regarding claim 10, Landgraf (Fig 3a,111c,111e) teaches that each semicircular notch is aligned with a respective stator tooth so that their centers are substantially located on the same radial axis.

11. Regarding claim 11, Takeda et al (Fig 5, see re-illustration below, label D) teaches that in the assembled state of the single phase motor, each of the plurality of evenly spaced semicircular notches form a flow passage.

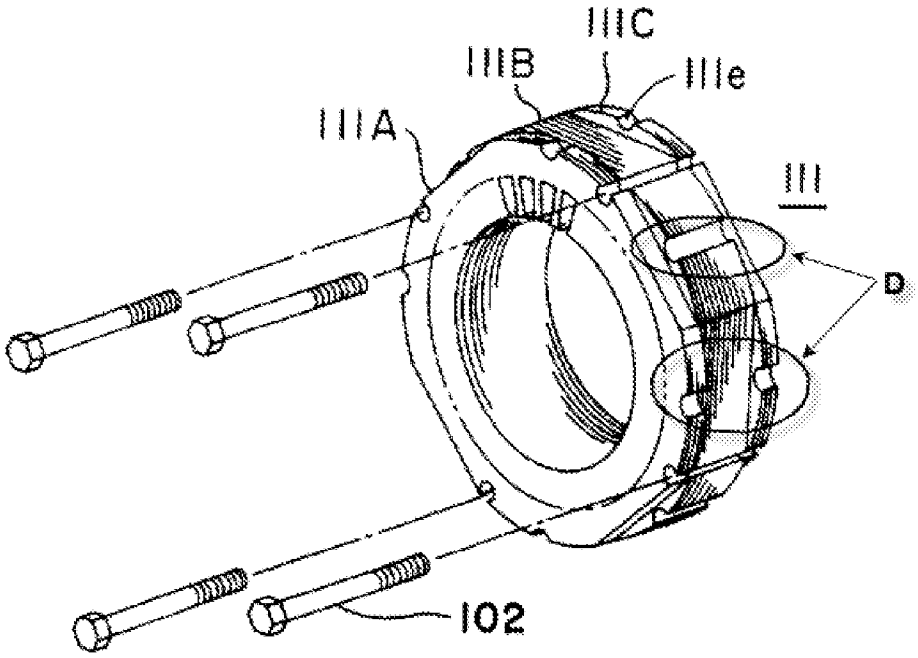


FIG. 5

Response to Arguments

12. Regarding applicant's arguments with respect to claims 1-7 have been considered, but are not persuasive. Applicant argues that Hoffmeyer does not overcome the deficiency of Landgraf and that Hoffmeyer discloses that "a rhomboid is formed by straight lines including four notches out of the six notches". Applicant argues limitations which are not supported by the claims made in previous round of prosecution (see office action dated 05/14/2009) and claims (made of record on 02/17/2009). According to claims made on 02/17/2009, the limitation of “a quadrangle formed by straight lines including four notches out of the six notches" was to be met. Examiner clearly met this

limitation and mailed a final rejection. However, in current office action Landgraf (see re-illustration of Fig 2, dotted lines above) teaches that “a square can be formed by straight lines including four notches out of the six notches".

13. Regarding applicant’s arguments for claim 8 has been considered, but are not persuasive. Applicant’s argument that Takeda et al's Fig 2, the bolt holes element 111e are not semicircular and that they are used for fixing the stator core to the housing is not persuasive, because examiner also cites elements 111c,111d which clearly is also part of the stator core and may be used for a different purpose. Takeda et al’s Fig 2,111e clearly are in a semicircular form.

14. In response to applicant's argument that Takeda et al's Fig 2, the bolt holes element 111e are not semicircular and that they are used for fixing the stator core to the housing. This is not persuasive, see re-illustration above of Fig 5,label D of Takeda et al. The fact that applicant has recognized another advantage which would flow naturally from following the suggestion of the prior art cannot be the basis for patentability when the differences would otherwise be obvious. See *Ex parte Obiaya*, 227 USPQ 58, 60 (Bd. Pat. App. & Inter. 1985).

15. Regarding applicant’s arguments that Takeda’s bolt holes 111e and other notches formed on the circumference of Fig 3a do not correspond to the number of stator teeth, are not persuasive. Takeda et al do however teach the use of numerous

and different notches (Col 6 ll 31-43). It would have been obvious to one having ordinary skills in the art at the time the invention was made to make "the number of semicircular notches correspond to the number of stator teeth", since it has been held that discovering an optimum value of a result effective variable involves only routine skill in the art. In re Boesch, 617 F.2d 272, 205 USPQ 215 (CCPA 1980). The motivation to do so would be that it would allow easier assembly and accurate mounting of the device (Col 3 ll 9-12 of Takeda et al).

16. Regarding applicant's arguments that the references do not teach the limitations of claim 10 are not persuasive. See re-illustration of Fig 3a, labels A and B above of Takeda et al.

17. Takeda et al teaches the structural limitation "semi circular notches" regardless if it is used for cooling the stator or to secure the stator. It has been held that a recitation with respect to the manner in which a claimed apparatus is intended to be employed does not differentiate the claimed apparatus from a prior art apparatus satisfying the claimed structural limitations. *Ex parte Masham, 2 USPQ2d 1647 (1987).*

Conclusion

18. Any inquiry concerning this communication or earlier communications from the examiner should be directed to NAISHADH N. DESAI whose telephone number is (571)270-3038. The examiner can normally be reached on M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Quyen Leung can be reached on (571) 272-8188. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Quyen Leung/
Supervisory Patent Examiner, Art Unit 2834

NND